

B.D.U.C.

BETA DISK USERS CLUB

BETA DISK NEWSLETTER NO. 2

STOP PRESS...STOP PRESS...STOP PRESS...STOP PRESS...STOP PRESS

March 20th. Reports reaching BDUC confirm that TR ceased trading as of today. BDUC advised members not to return disk interfaces or drives to TR for repair, or send cash for goods. Enquiries should be directed to the Official Receiver in Reading.

Welcome to this the second issue of the BDUC newsletter. After the depressing news of TR's collapse I can assure members that this does not signify the end of BDUC!

Thank You to BDUC members for comments and contributions. The BDUC survey data is currently being compiled and should be available next issue, in the mean time if you have not returned your survey questionnaire, please do!

Some users with older versions of TRDOS (4.xx or earlier) have indicated, that these early revisions did not support the LIST function, it should be relatively easy to use CAT to provide information for an extended catalogue similar to the program in issue 1.

WHOOPS!

In the conversion from programs developed using Beta Basic for inclusion in the newsletter one or two bugs crept in. Here are the corrections.

Page 3 line 260

260 RANDOMIZE USR DOS: REM: CLOSE #7

Page 4 line 10,20,25

10 RANDOMIZE USR DOS: REM: OPEN #8,"LIST",W

20 MOVE "M";1;"1" TO #8

25 RANDOMIZE USR DOS: REM: CLOSE #8

Page 4 line 40

40 LET E=USR DOS: REM: OPEN #9,"LIST",R

In future editions BDUC will wherever possible include programs for Beta+ and Beta 128 interfaces.

TRDOS and RANDOMIZE USR 15616. BY M.J. SMITH, BDOC.

The 48K Spectrum operating system in ROM occupies 16K of memory from location 0 to 16383. It can therefore be seen that 15616 is within this range, so why does TRDOS make a call to what is normally a ROM address?

First of all we need to investigate the contents of address 15616 without the Beta disk connected: So armed with your favorite disassembler look at the address 15616 (3D00H). You should find something like this:

```
15616 3D00H 00 NOP TO 15624 3D08H 00 NOP
```

This location is the start of the Sinclair character set bit-map and is character code 32 which is 'SPACE'. The next step is to refit your Beta and save TRDOS to disk. This is easily accomplished by entering TRDOS and typing directly:

```
SAVE "TRDOS" CODE 0,16384
```

This saves 16K of code whilst TRDOS is paged in. The actual hardware that pages in TRDOS is complex but here is the basic idea explained.

This is my own personal interpretation, if anyone has dissected a Beta interface please correct me if I'm wrong!

A call to 15616 causes a particular logic state on the address bus of the interface, in this case:

```

15616 = 3D00H      A15      A0
                   3      D      0      0
                   0011 1101 0000 0000
15619 = 3D03H      3      D      0      0
                   0011 1101 0000 0011
```

The address lines are decoded by logic gates and lines A15 to A8 of the address bus are used. Once the condition is met, then TRDOS is paged in a similar way to the Interface 1 ROM is paged (Interface 1 uses address 8 which is easily decoded) the Spectrum operating system is temporarily 'replaced' by TRDOS. The code at location 15616 is then executed. Here's a quick disassembly of the code at 15616, notice now that TRDOS has replaced the eight NOP's with the code:

```
15616 3D00H 00 NOP ;wait one m cycle
15617 3D01H 182E JR 15665 ;jump to routine
15618 3D03H 00 NOP ;wait one m cycle
15620 3D04H 1814 JR 15642 ;jump to routine
```

The reason for a time delay is because hardware paging can take longer than 1 m cycle and the time delay is included to ensure paging has occurred correctly before execution of code.

The best way to look at this is to load your TRDOS code at 32000 (7D00H) and disassemble, remember to subtract 32000 from all the absolute addresses. So 15616 = 47616 (BA00H) and 15619 = 47619 (BA03H).

TASWORD 3 TEXT TO BETA DISK. BY M.J.SMITH, BDOC.

This program enables security back-up of Tasword 3 text files to disk. It's quite frustrating to have disk storage on line and be forced to use microdrive with an excellent program such as Tasword 3. BDOC has approached Tasman of Leeds about producing a Beta compatible version but at this present time they have no plans to do so.

Several BDOC members have asked about Beta compatible versions of Tasword 3, I do hope to have further news in the next issue.

Listing 1 produces text files on disk from cartridge and listing 2 transfers files back to microdrive. I use this method to archive my text files.

This version was written for 5.01 or 5.03 TRDOS.

Listing 1.

```
10 PRINT TAB 9;"TASWORD3-BETA""TASWORD3 TEXT IN MDRIVE 1 AND
   BACKUP""DISK IN DRIVE A"" PRESS ANY KEY "
20 LET F=0
30 PAUSE 0
40 CLEAR #
50 LET E=USR 15619: REM : OPEN #9,"TEMP",W
60 CAT #9,1
70 LET E=USR 15619: REM : CLOSE #9
80 PRINT "CATALOGUE COMPLETE"
90 LET E=USR 15619: REM : OPEN #9,"TEMP",R
100 INPUT #9;D$
110 INPUT #9;D$
120 INPUT #9;Z$
130 IF LEN Z$=0 THEN GO TO 210
140 LET F=F+1
150 PRINT AT 12,0;"MOVING:";F;" ";Z$;AT 12,18;" "
160 LET E=USR 15619: REM : OPEN #10,Z$,W
170 MOVE "M";1;Z$ TO #10
180 LET E=USR 15619: REM : CLOSE #10
190 PRINT AT 12,18;"OK"
200 GO TO 120
210 LET E=USR 15619: REM CLOSE #9
220 PRINT F;" FILES MOVED"
```

The second part transfers archive files back to the current text_file cartridge in drive 1.

Listing 2.

```
10 PRINT "TASWORD3 TEXT DATA IN DISK A""MICRODRIVE IN DRIVE
1 "'"; FLASH 1;" PRESS A KEY "
20 LET F=0
30 PAUSE 0
40 LET E=USR 15619: REM : OPEN #9,"TEMP",R
50 INPUT #9;D$
60 INPUT #9;D$
70 INPUT #9;Z$
80 IF LEN Z$=0 THEN GO TO 160
90 LET F=F+1
100 PRINT AT 12,0;"MOVING:";Z$;" "
110 RANDOMIZE USR 15619: REM : OPEN #10,Z$,R
120 MOVE #10 TO "M";1;Z$
130 LET E=USR 15619: REM : CLOSE #10
140 PRINT AT 12,18;"OK"
150 GO TO 70
160 LET E=USR 15619: REM : CLOSE #9
170 PRINT F;" FILES MOVED"
```

Both listings could be joined together and modified to give backup of individual files. One point to bear in mind is that the cartridge to be transferred to disk must contain DATA files only since the CAT in line 60 will give all file types but the transfer lines are for DATA files only and a BASIC halt will be produced if a transfer is attempted.

BDUC SPECIAL OFFER

BDUC has negotiated a special price on BETA BASIC by BETASOFT. The normal price is £14.95 the club offer price is £12.95. This program is highly recommended by BDUC. IMPORTANT: To qualify for discount members must send their order to BDUC on the order form enclosed. Overseas members should enquire about discounts.

Here is a very useful utility that you can include on all your disks it's from Nick Cooper of Leicestershire.

AUTOBOOT BY NICK COOPER.

There are two parts of Basic to type in, but I feel sure you'll find the effort worth it. The first part is a small program to poke some machine code into the first line of BASIC.

First type in listing one and run it. Delete all the lines except line 10 and save this to disk. Type in the listing two, and save this also.

Now, with the second listing in memory, MERGE in the first listing and save the merged program as 'boot' with auto start line 15. And that's it! Save a copy onto every disk that you want a bootfile on.

As far as I'm aware this program will only work with the Beta 128 interface (Version 5.03) and should work with both the Spectrum 48+ and the 128k machine.

Due to another bug in the Beta i/f, the program will return to Basic with the drive running, if a disk is'nt present although this should'nt occur as a disk has to be present to load it in the first place.

INSTRUCTIONS

Autoboot supports BASIC, CODE and SNAPSHOT files but not data, random and serial access files.

Once loaded, you are offered the following options:-

Keys A-P

Will load the file corresponding to that letter on the screen.

If that file is BASIC, then it will load and control will return back to basic. Before a CODE file is loaded, however, you're first asked where you want it to load to. This can be in the range 30000 upto the top of memory. Should you attempt to load it too high, then you will be told to try again. If you just press ENTER at the prompt the file will load to the address it was saved from. Pressing STOP will abort.

You are then asked if you want to move ramtop. This will move ramtop without destroying any variables. If you enter an address from 30000 to top of memory, then ramtop will move to that address. If you just press ENTER at the prompt then the following will happen. If you are attempting to load below ramtop (or indeed over it) then ramtop will be moved to the load address minus one. On the other hand, if you're attempting to load anywhere above ramtop, then ramtop will be left alone. Pressing STOP will abort.

Once the file is loaded, you are then asked for the run address. Again, any address from 30000 to the top of memory will run the file from that address. If you just press ENTER at the prompt the file will run from the load address. STOP aborts.

If you do not wish the file to run, but return to basic then just press cursor down.

Snapshot files will ask for confirmation before loading as loading one accidentally could be disastrous!

Cursor left-right

Will page through each screen full of files. (There are 16 files to a screen making 8 screensfull for a full disk.) Going past the last screen will return to the first.

Options 1,2,3

1. Extended catalogue.
2. Change Disc. If you want to reboot a different disc.
3. Call TRDOS. Will return to the bootfile.

Type in the following listing and follow the instructions given above. Line 10 contains 69 x's, this space should be reserved for machine code poked in by the rest of the prog.

The facility has also been added so that multiple drives are catered for and disc title, number of files, and free space is given in Kbytes.

Listing 1.

```
10 REM xxxx 69 x's xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
50 RESTORE
60 LET x=(PEEK 23635+256*PEEK (23636))+5
70 FOR a=0 TO 68: READ z: POKE x+a,z: NEXT a
80 STOP
100 DATA 1,5,1,17,1,0,33,25,105,205
101 DATA 19,61,201,17,0,0,24,11,17,96
102 DATA 234,42,178,92,175,237,82,56,39,175
103 DATA 27,237,83,178,92,103,111,57,68,77
104 DATA 42,61,92,35,229,183,237,66,68,77
105 DATA 3,225,62,62,18,27,27,27,237,83
106 DATA 61,92,19,237,184,19,235,249,201
```

Listing 2.

```

15 CLEAR : DIM a$(16,16)
20 LET y=(PEEK 23627+256*PEEK (23628))+8
30 LET x=(PEEK 23635+256*PEEK (23636))+5
40 POKE x+7,y-256*INT (y/256): POKE x+8,INT (y/256)
45 POKE x+4,8: RANDOMIZE USR x: LET t$=a$(16,8 TO 12): LET d$=
CHR$( (PEEK 23833)+65): LET f1=CODE (a$(15,5)): LET bf=INT
((CODE a$(15,6)+CODE a$(15,7)*256)/4)
50 LET f=0: LET n=1: POKE x+4,0: RANDOMIZE USR x
60 CLS : PRINT : PRINT " *Autoboot N.Cooper 1987*" Title
":t$, " Disc Drive: ";d$, " ";f1;" file(s)", " Free Kbyte:";
bf"TAB 22;"Screen{";n;"}: PRINT
100 FOR a=1 TO 16
110 IF a$(a,1)=CHR$ 1 THEN NEXT a
120 IF a$(a,1)=CHR$ 0 THEN LET f=1: GO TO 150
130 PRINT " ";CHR$(a+64);" ";a$(a, TO 8);"<"a$(a,9);">",
140 NEXT a
150 PRINT : PRINT : PRINT TAB 22;(" more.." AND f=0)+("no mor
e.." AND f=1)
160 PRINT AT 18,8;"[1] List Disc ";AT 19,8;"[2] Change Disc";
AT 20,8;"[3] Enter TRDOS"
170 PLOT 8,0: DRAW 0,175: DRAW 247,0: DRAW 0,-175: DRAW -247,0
200 GO SUB 510: LET z$=INKEY$
210 IF z$=CHR$ 8 AND f=1 THEN GO TO 50
220 IF z$=CHR$ 9 THEN LET n=n+1: POKE x+4,n-1: RANDOMIZE USR x:
GO TO 60-
225 IF z$=CHR$ 8 AND n=1 THEN LET n=INT (f1/16)+1: POKE x+4,n-1
LET f=1: GO TO 60
230 IF z$=CHR$ 8 AND n>1 THEN LET n=n-1: POKE x+4,n-1: LET f=0:
RANDOMIZE USR X: GO TO 60
240 IF z$="a" AND CODE z$<=a+95 THEN GO TO 300
250 IF z$="A" AND CODE z$<=a+63 THEN GO TO 300
260 IF z$="1" THEN GO SUB 540: GO TO 580
270 IF z$="2" THEN GO SUB 620: RUN
280 IF z$="3" THEN RANDOMIZE USR 15616
285 IF z$="3" THEN RUN
290 GO TO 200
300 IF z$="a" THEN LET p=CODE z$-96
310 IF z$="P" THEN LET p=CODE z$-64
320 LET p$=a$(p, TO 8)
325 IF a$(p,1)=CHR$ 0 OR a$(p,1)=CHR$ 1 THEN GO TO 350
330 IF a$(p,9)="B" THEN INPUT ;: PRINT #0;" Loading ";p$;"<0>"
RANDOMIZE USR 15619: REM : LOAD p$
335 IF a$(p,9)="C" AND a$(p,14)="USR " THEN GO TO 600
340 IF a$(p,9)="C" THEN LET n$="Load addr? ": GO SUB 400: GO TO
360

```

Listing 2. continued.

```

350 INPUT ;: PRINT #0;" <B> and <C> Files only...": FOR z=1 TO
100: NEXT z : GO TO 200
360 IF q$=" STOP " THEN GO TO 200
365 IF q$<>" THEN IF VAL q$+(CODE a$(p,12)+256*CODE a$(p,13))>
65536 THEN INPUT ;: PRINT #0;" Loading to high:Press a key.
...": PAUSE 0: GO TO 340
375 IF y$=CHR$ 226 THEN GO TO 60
380 IF y$="y" OR y$="Y" THEN GO SUB 550: GO TO 400
390 GO TO 370
400 POKE x+14+(5 AND y$=""),rt-256*INT (rt/256): POKE x+15+(5 A
ND y$=""),INT (rt/256): RANDOMIZE USR (x+13+(5 AND y$=""))
410 INPUT ;: PRINT #0;" Loading ";p$;"<C>": IF q$="" THEN GO SU
B 500: RANDOMIZE USR 15619: REM : LOAD p$CODE
420 IF q$<>" THEN LET r=VAL q$: RANDOMIZE USR 15619: REM : LOA
D p$CODE VAL q$
430 LET n$="Run addr? ": GO SUB 460: CLS : IF q$=" STOP " THEN
GO TO 60
440 IF q$="" THEN RANDOMIZE USR r: GO TO 1e4
450 IF q$<>" THEN,RANDOMIZE USR VAL q$: GO TO 1e4
460 INPUT " ";(p$);"<C> ";(n$); LINE q$
470 IF CODE q$>=50 AND CODE q$<=54 AND LEN q$=5 THEN RETURN
480 IF q$="" OR q$=" STOP " THEN RETURN
490 GO TO 460
500 LET r=CODE (a$(p,10))+256*CODE (a$(p,11)): RETURN
510 IF INKEY$<>" THEN GO TO 510
520 IF INKEY$="" THEN GO TO 520
530 RETURN
540 INPUT ;: PRINT #0;" Insert Disc and Press any key..": GO SU
B 510: RETURN
550 INPUT " New Ramtop? "; LINE y$: IF y$="" THEN GO SUB 500: L
ET rt=r: RETURN
560 IF CODE y$>=51 AND CODE y$<=54 AND LEN y$=5 THEN LET rt=VAL
y$: RETURN
570 GO TO 550
580 RANDOMIZE USR 15619: REM : LIST
590 PRINT #0;" Press a key": PAUSE 0: GO TO 60
600 INPUT ;: PRINT #0;" Snapshot:";p$;" Sure?(y/n)": GO SUB
510: LET y$=INKEY$: IF y$<>"y" AND y$<>"Y" THEN GO TO 60
610 INPUT ;: PRINT #0;" Loading Snapshot File ";p$: RANDOMIZE
USR 15619: REM : GO TO P$CODE
620 INPUT ;: PRINT #0;" Insert Disc : Drive A,B,C,D ?": GO SUB
510: LET z$=INKEY$: IF z$>"d" OR z$<"a" THEN GO TO 620
630 IF z$>"D" AND z$<"a" THEN GO TO 620
640 RANDOMIZE USR 15619: REM :*z$;"
650 RETURN

```

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